

REMARKS

Claims 1-12 are pending in this application, with claims 1 and 5 being independent. For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art.

Claim Rejections – 35 U.S.C. § 112

Claims 1, 2, 5, and 10 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. With respect to claims 1, 2, and 5, the Office Action asserts that the term “strength” is too broad and makes the claim indefinite. Therefore, the Office Action suggests amending the claims to recite “signal strength.” Applicants disagree with the rejections of claims 1 and 5 because they each recite “a strength profile of a plurality of radio waves.” As such, they clearly describe strength of a signal. Applicants have amended claim 2 to overcome its rejection.

Claim 10 was rejected as allegedly being unclear. Claim 10 has been amended not to depend from claim 4. Applicants believe that this amendment remedies the alleged ambiguity of claim 10. Should the Examiner wish to maintain this rejection, Applicants respectfully request that the Examiner further clarify as to why the Examiner deems this claim to be unclear.

Claim 10 recites that if the first key does not match the second key, the said first radio device matches the first key with the second key. To provide context for claim 10, Applicants note that the application describes that “when key matcher 190 receives mismatch signal NMTH from key verifier 170, key matcher 190 employs a method described later to cause private key Ks1 to match private key Ks2, and verifies that the matched private key matches private key Ks2, by the same method as employed in key verifier 170.” See e.g., Application at page 10, lines 2-5.

Claim Rejections – 35 U.S.C. § 103

Claims 1-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication Number 2002/0111191 (“Takatori”) in view of U.S. Patent Number 5,513263 (“White”). Claims 11 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takatori, in view White, and further in view of U.S. Patent Number 5,222,137 (“Barrett”).

Applicants respectfully traverse the above-stated rejection because Takatori and White, either alone or in combination, do not appear to describe or suggest a radio communications system that includes, among other features, first and second radio devices mutually transmitting and receiving a radio wave through a radio transmission path via said first and second antennas, wherein: (i) said first radio device receives a radio wave or waves from said second radio device while changing a directivity of said first antenna with prescribed patterns to form a plurality of directivities, generates a first receive signal profile indicative of a strength profile of a plurality of radio waves received with the respective ones of the directivities, and generates a first private key based on the generated first receive signal profile; and (ii) said second radio device receives a radio wave or waves from said first radio device while changing a directivity of said first antenna with prescribed patterns to form a plurality of directivities, generates a second receive signal profile indicative of a strength profile of a plurality of radio waves received with the respective ones of the directivities, and generates a second private key identical to said first private key based on the generated second receive signal profile, as recited in claim 1.

Takatori, in FIG. 10, illustrates a wireless network that includes two terminal stations 101A, 101B, two base stations 102A, 102B, and an intensive control station 103. Takatori at

page 7, paragraph [157]. When terminal stations 101A, 101B are transmitting/receiving radio wave signals to/from base stations 102A, 102B, respectively, using the same communication channel with the same frequency and same timing, the intensive control station 103 receives through base stations 102A, 102B at least one transmission signal and reception signal from each of the terminal stations 101A, 101B. *Id.* Based on these received signals, the intensive control station 103 generates weight vectors for minimizing interference power on the basis of received signals. *Id.* The intensive control station 103 transmits the weight vectors to the base stations 102A, 102B as control signal to change directivity characteristic of the antennas of the base stations 102A, 102B such that the interference power between the terminal stations 101A, 101B is reduced. *Id.*

Although Takatori appears to describe changing directivity of a first antenna (e.g., alleged base station 102A), it does not appear to describe changing a directivity of a first antenna with prescribed patterns to form a plurality of directivities, generating a first receive signal profile indicative of a strength profile of a plurality of radio waves received with the respective ones of the directivities, as recited in claim 1. That is, Takatori does not appear to describe generating a strength profile of a plurality of radio waves received with the respective ones of directives produced by changing the directivity of the first antenna.

The Office Action asserts that the weight vector corresponds to the strength profile recited in claim 1. Applicants disagree because the weight vector is not produced based on the changing directivity of a first antenna, rather it is produced based on the transmission signal and reception signal from terminal station 101A. The weight vector is generated to change directivity and not to generate a strength profile of a radio wave received based on the changed directivity. Furthermore, as the Office Action concedes Takatori fails to describe or suggest

generating a first private key based on the generated first receive signal profile, as recited in claim 1.

White was relied upon for an alleged teaching of generating a first key and a second key by using a lookup table. As such, the proposed addition of subject matter from White does not appear to remedy the shortcomings of Takatori to describe or suggest the above-recited features of claim 1. Furthermore and as conceded by the Office Action, White generates keys by using a look up table and not using the generated first receive signal profile. Therefore, even if it is assumed for the sake of argument that the Office Action's assertion with respect to the teachings of White and Takatori is correct, the proposed combination of Takatori and White still fails to describe or suggest all the features of claim 1.

For at least the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1.

Claim 5 includes features similar to the above-recited features of claim 1. Therefore, for at least the reasons presented above with respect to claim 1, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1.

Dependent Claims

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Because claims 1 and 5 are allowable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also allowable. In

addition, it is respectfully submitted that the dependent claims are allowable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Therefore, it is respectfully requested that the rejection under § 103 be withdrawn.

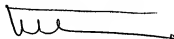
Conclusion

Having fully responded to all matters raised in the Office Action, Applicant submits that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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